REMARKS

Claims 2-5, 7 and 12-23 are pending. By this Amendment, the specification and claims 3, 5, 7, 12 and 13 are amended and claims 14-23 are added. Reconsideration and allowance in view of the above amendments and following remarks are respectfully requested.

The specification was objected to. Although applicants respectfully submit that there is no requirement that the specification provide exact antecedent basis for the claimed subject matter (see, for example, MPEP § 2163 I.B., which clearly states that there is no *in haec verba*, i.e. word for word, requirement), the specification and claims have been amended to provide consistent terminology for the cylinder. Reconsideration and withdrawal of the objection to the specification are respectfully requested.

Claims 2-5, 7 and 12 were rejected under 35 U.S.C. §112, first paragraph. Although it is respectfully submitted that the Office Action fails to satisfy the initial burden to establish a reasonable basis to question the enablement provided for the claimed invention, as required by MPEP §2164.04, as discussed above, the specification and claims have been amended to consistently recite the cylinders.

With respect to the conclusion on page 3 of the Office Action that the cylinder 7c does not form a variable volume working chamber in which positive and negative oil pressures are alternately produced, Applicants respectfully disagree. As disclosed, for example, in paragraph [0018], each fluid line 1a and 2a, the suction port 1 and the discharge port 2 are formed in one of the cylinders 7b and 7c. As also disclosed, for example, in paragraph [0017], the oil is sucked into the gaps from the suction port under negative pressure in the gaps between the inner and outer rotors 4 and 5, and is discharged from the gaps into the discharge port 2 under positive

pressure in the gaps. Accordingly, it is respectfully submitted that the instant claims use the term "cylinder" in a manner which would be readily understood by one of ordinary skill in the art.

Reconsideration and withdrawal of the rejection under 35 U.S.C. §112, first paragraph, are respectfully requested.

Claims 2-5, 7 and 12 were rejected under 35 U.S.C. §112, second paragraph. As the claims have been amended to clearly recite the cylinder, it is respectfully submitted that the rejection is overcome. Reconsideration and withdrawal of the rejection under 35 U.S.C. §112, second paragraph, are respectfully requested.

Claims 12 and 13 were rejected under 35 U.S.C. §102(b) over Japanese Utility Model Publication 2-87975 (JP '975). The rejection is respectfully traversed.

Claim 12 recites an oil seal arrangement for a pump which contains oil and in which positive and negative oil pressures are alternately produced. The pump comprises a housing, a motor mounted to the housing, a cylinder fixedly mounted in the housing, a rotary shaft inserted in and rotatably supported by the cylinder and coupled to the motor at one axial end of the cylinder, and a pump unit disposed around and coupled to the rotary shaft at another axial end of the cylinder. The oil seal arrangement comprises a high pressure seal mounted in the cylinder around the rotary shaft. The high pressure seal is disposed between the motor and the pump unit. The pump unit is driven by the motor through the rotary shaft to suck and discharge oil into and from the cylinder. The oil seal arrangement also comprises a low pressure seal mounted in the cylinder around the rotary shaft between the high pressure seal and the motor. An oil seal chamber is defined in the cylinder around the rotary shaft between the high pressure seal and a low pressure seal. The oil seal chamber contains oil of the same type as oil in the pump unit and the rotary

shaft is completely submerged in the oil in the oil seal chamber. The oil seal chamber is sealed from outside the housing, it being recognized, however, that communication exists between the oil seal chamber and the recess chamber when such recess chamber is provided, as recited for example in allowable claim 3, and as in the illustrated embodiments.

JP '975 discloses an oil space 17 which is connected to an oil inlet port 8. Therefore, the oil space 17 is not sealed from outside a housing, as recited in claim 12.

Furthermore, the oil pressure P_0 in the oil space 17 is lower in absolute value than the negative pressure P_1 and lower than the atmospheric pressure. Accordingly, it is apparent that the pressure in the oil space 17 will never exceed atmospheric pressure and the oil space would be of no use as an oil seal chamber for use in a pump or any other application where it is necessary to seal high pressure oil.

Claim 13 recites an oil seal arrangement for a cylinder containing oil. The oil seal arrangement comprises a high pressure seal mounted in the cylinder around a shaft inserted in the cylinder to seal a pressure chamber defined in the cylinder around the shaft. The pressure chamber is filled with oil and positive and negative pressures are alternately produced in the pressure chamber. A low pressure seal is mounted in the cylinder around the shaft between the high pressure seal and one end of the cylinder remote from the pressure chamber. An oil seal chamber is defined in the cylinder around the shaft between the high pressure seal and the low pressure seal. The oil seal chamber contains oil of the same type as oil in the pressure chamber and the shaft is completely submerged in the oil in the oil seal

chamber. The oil seal chamber is sealed from outside a housing in which the cylinder is adapted to be fixedly mounted.

As discussed above, the oil space 17 of JP '975 is not sealed from outside. As also discussed above, the pressure P_0 in the oil space is less than atmospheric and the oil space 17 cannot function as an oil seal chamber as recited in claim 13.

Reconsideration and withdrawal of the rejection of claims 12 and 13 over JP '975 are respectfully requested.

Claim 13 was rejected under 35 U.S.C. §102(b) over Schexnayder (U.S. Patent 3,943,717). The rejection is respectfully traversed.

Applicants respectfully note that Schexnayder is not of record, as it has not been submitted in an Information Disclosure Statement, and has not been cited on a form PTO-892 by the Examiner. The Examiner is respectfully requested to list Schexnayder on a form PTO-892 and forward a copy of such form PTO-892 with the next official communication.

Schexnayder discloses that the annular chamber 30 formed in the housing 11 is disposed between the inboard and outboard sealing means 17 and 18 and has its outlet connected to a conduit 31 which returns circulating low pressure fluid through a filter 32 back to a reservoir 21. Schexnayder does not disclose or suggest that the annular chamber 30 is sealed from outside. Schexnayder therefore does not anticipate or render obvious claim 13.

Reconsideration and withdrawal of the rejection of claim 13 over Schexnayder are respectfully requested.

Claims 2, 12 and 13 were rejected under 35 U.S.C. §103(a) over JP '975 in view of either of Japanese Application Publication 2-271167 (JP '167) or Japanese Application Publication 62-13872 (JP '872). The rejection is respectfully traversed.

As discussed above, JP '975 discloses that the oil space 17 communicates with the inlet port 8. Accordingly, one of ordinary skill in the art would not have been motivated to seal the oil space 17 from outside. One of ordinary skill in the art would not have been motivated to combine either JP '167 or JP '872, both of which merely disclose two seals to prevent leakage of oil in a space between the two seals, in the manner proposed in the Office Action. Moreover, JP '167 discloses a seal for sealing a vacuum chamber, not a seal arrangement to seal high pressure oil. For at least this additional reason, one of ordinary skill in the art would not have been motivated to combine JP '167 with JP '975.

Reconsideration and withdrawal of the rejection of claims 2, 12 and 13 over JP '975 in view of either JP '167 or JP '872 are respectfully requested.

New claim 14 recites a pump comprising a housing, a motor mounted to the housing, a cylinder fixedly mounted in the housing having a bore, a rotary shaft rotatably mounted in the bore of the cylinder and coupled to the motor at one axial end of the cylinder, and a pump unit comprising rotary members disposed around and coupled to the rotary shaft at the other axial end of the cylinder. The rotary members are driven by the rotary shaft, thereby sucking and discharging hydraulic fluid in the housing.

The pump further comprises a first seal member mounted in the bore of the cylinder between the pump unit and the motor for sealing between an inner surface of the bore of the cylinder and an outer surface of the rotary shaft. A second seal member is mounted in the bore of the cylinder between the first seal member and the motor for sealing between the inner surface of the bore of the cylinder and the outer surface of the rotary shaft. A seal chamber is sealed from outside the housing and defined between the first and second seal members. Hydraulic fluid of the same

type as the hydraulic oil sucked and discharged by the pump unit is present in the seal chamber and the rotary shaft is completely submerged in the hydraulic fluid in the seal chamber.

Neither JP '975, Schexnayder, JP '167 nor JP '872 discloses or suggests a pump as recited in claim 14, including a seal chamber sealed from outside the housing and defined between first and second seal members.

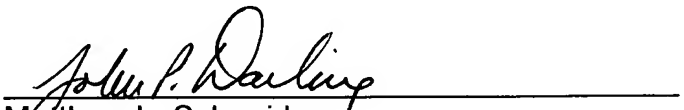
Claims 15-23 recite additional features of the invention and are allowable for the same reasons discussed above with respect to claim 14 and for the additional features recited therein.

Applicants appreciate the indication that claims 3-5 and 7 recite patentable subject matter. However, in view of the above amendments and remarks, applicants respectfully submit that all of the claims are allowable and that the entire application is in condition for allowance.

Should the Examiner believe that anything further is necessary to place the application in condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: January 16, 2007 By: 

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